

REMARKS

Claims 1-4 are pending. In this Amendment, the claims were amended to add new independent claim 5, and independent claim 1 was also amended. The amendments to the claims were made for purposes of clarification and without adding new matter. After this Amendment, claims 1-5 are pending. Applicant believes that the amendments to the claims place the application in condition for allowance. Applicant respectfully requests reconsideration of the application and the amended claims, and prompt allowance of all pending claims in view of the following arguments.

Amendments to the Claims

Independent claim 1 has been amended to clarify that a surface of the heat resistant backing film layer is surface treated; and that a pressure-sensitive adhesive layer disposed on the treated surface of the heat resistant backing film layer, wherein the pressure-sensitive adhesive layer comprises a polymer resulting from polymerizing and cross-linking a nonaqueous monomer mixture.

Support for the amendments to claim 1 may be found, for example, in Applicant's specification, which discloses surface treatment of a surface of the thermally resistant backing film¹; and in Applicant's Example 1.² Applicant respectfully directs the Examiner's attention to the fact that each of Applicant's Examples 1-3 discloses an acrylic polymer prepared in a nonaqueous solvent (e.g. ethyl acetate)³, and further, that each of Applicant's exemplary pressure sensitive precursor solution shown in Table 2 was prepared in a nonaqueous solvent (e.g. methyl ethyl ketone).⁴ Therefore, Applicant respectfully submits that the amendments to claim 1 are fully supported by Applicant's specification under 35 U.S.C. § 112, first paragraph.

New independent claim 5 has been added to more clearly claim the disclosed exemplary embodiment of Applicant's Example 1, which describes a heat resistant masking tape, comprising (1) a heat resistant backing film layer; and (2) a pressure-sensitive adhesive layer

¹ See Applicant's Specification, page 6, lines 2-13.

² See *Id.*, page 9, line 15 through page 11, line 13.

³ See *Id.*, page 9, lines 24-25.

⁴ See *Id.*, page 10, lines 9-10.

disposed on the heat resistant backing film layer, wherein the pressure-sensitive adhesive layer comprises a polymer resulting from polymerizing and cross-linking a monomer mixture consisting essentially of an alkyl (meth)acrylate with an alkyl group having 4 to 15 carbon atoms, glycidyl(meth)acrylate and (meth)acrylic acid, the glycidyl(meth)acrylate being present in an amount of 2 to 13% by weight of the total weight of monomers and the (meth)acrylic acid being present in an amount of 1 to 7% by weight of the total weight of monomers.

Support for new claim 5 may be found, for example, in Applicant's specification.⁵ Applicant respectfully directs the Examiner's attention to the fact that each of the exemplary disclosed acrylic polymers of Examples 1-3 results from polymerizing and cross-linking a monomer mixture consisting essentially of an alkyl (meth)acrylate with an alkyl group having 4 to 15 carbon atoms, glycidyl(meth)acrylate and (meth)acrylic acid, the glycidyl(meth)acrylate being present in an amount of 2 to 13% by weight of the total weight of monomers and the (meth)acrylic acid being present in an amount of 1 to 7% by weight of the total weight of monomers.⁶ In particular, no other monomer components (e.g. alkyl (meth)acrylates with an alkyl group having 1 to 3, or greater than 15, carbon atoms) are taught or disclosed as components of the exemplary disclosed acrylic polymers of Examples 1-3. Therefore, Applicant respectfully submits that claim 5 is fully supported by Applicant's specification under 35 U.S.C. § 112, first paragraph.

Rejections Under 35 U.S.C. § 102

Claims 1 and 3 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Knapp (US Pat. No. 3,284,423). Claims 1-4 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Liu et al. (US Pat. No. 4,762,747). Applicant respectfully disagrees with the rejections of the claims under 35 U.S.C. § 102(b).

The Office Action alleges that "Knapp discloses: (1) a heat resistant masking tape (column 4, lines 32-61), comprising: (1) a heat resistant backing film layer (column 4, lines 32-46); and (2) a pressure-sensitive adhesive layer disposed on the heat resistant backing film layer (column 4, lines 52-61), wherein the pressure-sensitive adhesive layer comprises a polymer resulting from

⁵ See *Id.*, page 9, line 15 through page 10, line 10.

⁶ See *Id.*, Tables 1 and 2.

polymerizing and cross-linking a monomer mixture comprising an alkyl (meth)acrylate with an alkyl group having 4 to 15 carbon atoms (column 4, lines 52-61), glycidyl (meth)acrylate (column 4, lines 52-61), and (meth)acrylic acid (column 4, lines 52-61), the glycidyl (meth)acrylate being present in an amount of 2 to 13% by weight of monomers (column 4, lines 52-61) and the (meth)acrylic acid being present in an amount of 1 to 7% by weight of the total weight of monomers (column 4, lines 52-61); and (3) wherein said heat resistant backing film layer is a layer of polyethylene terephthalate, polyethylene naphthalate, polyphenylene sulfide or polyimide (column 4, lines 32-46).⁷

The Office Action further alleges that "Liu et al. disclose: (1) a heat resistant masking tape (column 6, lines 40-58), comprising: (1) a heat resistant backing film layer (column 6, lines 50-58); and (2) a pressure-sensitive adhesive layer disposed on the heat resistant backing film layer (column 6, lines 40-49), wherein the pressure-sensitive adhesive layer comprises a polymer resulting from polymerizing and cross-linking a monomer mixture comprising an alkyl (meth)acrylate with an alkyl group having 4 to 15 carbon atoms (column 6, lines 40-49), glycidyl (meth)acrylate (column 6, lines 40-49), and (meth)acrylic acid (column 6, lines 40-49), the glycidyl (meth)acrylate being present in an amount of 2 to 13% by weight of monomers (column 6, lines 40-49) and the (meth)acrylic acid being present in an amount of 1 to 7% by weight of the total weight of monomers (column 6, lines 40-49); (2) wherein said pressure-sensitive adhesive layer has a thickness of 0.5 to 100 μm (column 6, lines 50-58); (3) wherein said heat resistant backing film layer is a layer of polyethylene terephthalate, polyethylene naphthalate, polyphenylene sulfide or polyimide (column 6, lines 50-58); and (4) wherein said heat resistant backing layer has a thickness of 1 to 250 μm (column 6, lines 50-58)."⁸

As a threshold matter, Applicant respectfully contends that the Office Action mischaracterizes both the Knapp disclosure and the Liu et al. disclosures. The Office Action consistently references the disclosure of claim 1 of Knapp (at column 4, lines 52-61) and Comparative Example 1 of Liu et al. (at column 6, lines 50-58).⁹ Claim 1 of Knapp actually

⁷ Office Action dated October 5, 2007, ¶ 3 (emphasis added).

⁸ Office Action dated October 5, 2007, ¶ 4 (emphasis added).

⁹ Office Action dated October 5, 2007, ¶ 3.

discloses “[a] tacky and pressure-sensitive crosslinked adhesive copolymer consisting of (a) 35 to 75% by weight of acrylic acid esters having between 6 and 15 carbon atoms per molecule, (b) 10 to 60% by weight of a lower alkyl acrylate taken from the group consisting of methyl acrylate and ethyl acrylate, (c) 0.1 to 10% by weight of an acid taken from the group consisting of acrylic acid, methacrylic acid, itaconic acid, and crotonic acid, (d) 0.1 to 10% by weight of a glycidyl ester taken from the group consisting of glycidyl acrylate and glycidyl methacrylate.”¹⁰ Applicant respectfully notes that claim 1 of Knapp uses close “consisting of” language to disclose the monomer components of the pressure-sensitive crosslinked adhesive copolymer, and contends that such language requires all of those components to be present, in Knapp’s pressure-sensitive crosslinked adhesive copolymer, and no more.

Applicant thus respectfully contends that the Patent Office has only established that Knapp discloses an acrylic copolymer consisting of all of the claimed monomer elements of Knapp, including the required 10 to 60% by weight of a lower alkyl acrylate taken from the group consisting of methyl acrylate and ethyl acrylate missing from Applicant’s presently claimed invention. Applicant therefore respectfully submits that at least Applicant’s newly-added independent claim 5, which uses partially open “consisting essentially of” language in the claim preamble, is not anticipated by Knapp.

In addition, Applicant respectfully contends that the Office Action mischaracterizes Knapp and Liu et al. as each disclosing that heat resistant backing film layer is a layer of polyethylene terephthalate, polyethylene naphthalate, polyphenylene sulfide or polyimide (column 4, lines 32-46).¹¹ However, at the indicated section, Liu et al. teaches only that “[t]he adhesive varnish obtained from the above recip was coated on a polyimide film.”¹² Knapp only discloses that “[a]dvantages can be taken of these excellent properties in applications as varied as contact adhesives, label adhesives for both internal and external use, pressure-sensitive tapes, laminating adhesives, stack-lock adhesives, etc. The materials of this invention show good adhesion to a wide variety of hard-to-glue substrates such as polyethylene terephthalate (Mylar), cellulose

¹⁰ US Pat. No. 3,284,423, col. 4, lines 52-61 (emphasis added).

¹¹ Office Action dated October 5, 2007, ¶ 3 (emphasis added).

¹² US Pat. No. 4,762,747, col. 6, lines 50-58.

acetate, cellophane, polyvinyl chloride, polyvinylidene chloride, and metal foils. They are unusually qualified as package-flap adhesives where high shear and low peel would be a unique combination of desirable properties. Viscosity stability and compatibility of the products with other references and extenders are good thus rendering them available for compounding with other adhesives for many of the special applications that are so common to the trade.”¹³

Applicant respectfully contends that the Patent Office has not shown at all that Liu et al. discloses polyethylene terephthalate, polyethylene naphthalate or polyphenylene sulfide (at column 6, lines 50-58); or that Knapp discloses polyethylene naphthalate, polyphenylene sulfide or polyimide (at column 4, lines 32-46), as alleged in the Office Action.¹⁴ In particular, with respect to Knapp’s disclosure that “**materials of this invention show good adhesion to a wide variety of hard-to-glue substrates such as polyethylene terephthalate,**” Applicant respectfully submits that Knapp’s disclosure falls short of disclosing use of Knapp’s claimed pressure-sensitive crosslinked adhesive copolymer in a heat resistant masking tape, comprising (1) a heat resistant backing film layer, wherein a surface of the heat resistant backing film layer is surface treated; and (2) a pressure-sensitive adhesive layer disposed on the treated surface of the heat resistant backing film layer.

Applicant respectfully contends that the Patent Office has only shown that Knapp discloses use of Knapp’s claimed pressure-sensitive crosslinked adhesive copolymer on a **hard-to-glue substrate such as polyethylene terephthalate.** Thus, Applicant respectfully submits that the Patent Office has not established, on the record, that Knapp’s hard-to-glue substrate is an adhesive tape. If the Patent Office disagrees, then the Examiner is respectfully invited to establish, by proper citation to column and line number, where Knapp discloses an adhesive tape.

In addition to the foregoing, Applicant respectfully disagrees with the rejection of claims 1-4, at least because the Patent Office has failed to meet its burden of establishing that Knapp and Liu et al. disclose all elements of Applicant’s claimed invention, as required to support a rejection for alleged anticipation under 35 U.S.C. § 102.¹⁵ Applicant respectfully contends that

¹³ US Pat. No. 3,284,423, col. 4, lines 32-46 (emphasis added).

¹⁴ Office Action dated October 5, 2007, ¶¶ 3-4.

¹⁵ See *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 231 USPQ 81 (Fed. Cir. 1986) (“for prior art to anticipate under 102 it has to meet every element of the claimed invention”).

the Patent Office has at least not met its burden of showing that Knapp discloses a heat resistant masking tape, comprising (1) a heat resistant backing film layer, **wherein a surface of the heat resistant backing film layer is surface treated**; and (2) a pressure-sensitive adhesive layer **disposed on the treated surface** of the heat resistant backing film layer. Applicant further respectfully contends that the Patent Office has at least not met its burden of showing that Liu et al. discloses a heat resistant masking tape, comprising (1) a heat resistant backing film layer, **wherein a surface of the heat resistant backing film layer is surface treated**; (2) a pressure-sensitive adhesive layer **disposed on the treated surface** of the heat resistant backing film layer, and wherein the pressure-sensitive adhesive layer comprises a polymer resulting from polymerizing and cross-linking a nonaqueous monomer mixture.

Furthermore, with respect to Liu et al. Applicant notes in particular that Liu's Comparative Example 1 actually discloses formation of an emulsion polymer in deionized water, and thus could not be a polymer resulting from polymerizing and cross-linking a nonaqueous monomer mixture, as Applicant claims.

Therefore, Applicant respectfully submits that the Patent Office has not met its burden of showing that Knapp and Liu et al. disclose a surface treated heat resistant backing layer, nor formation of a pressure-sensitive adhesive layer disposed on the treated surface. Applicant further submits that the Patent Office has not met its burden of showing that Liu et al. disclose the pressure-sensitive adhesive layer comprises a polymer resulting from polymerizing and cross-linking a nonaqueous monomer mixture. Thus, Applicant respectfully submits that the Patent Office has not met its burden of showing that Knapp discloses all elements of Applicant's claimed invention. The rejection of claims 1 and 3 under 35 U.S.C. § 102(b) as purportedly anticipated by Knapp, and claims 1-4 under 35 U.S.C. § 102(b) as purportedly anticipated by Liu et al., has been overcome and should be withdrawn.

Rejections Under 35 U.S.C. § 103

Claims 1-4 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Takeda et al. (WO 03/064552 A1). Claims 1, 2, and 4 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Yamanaka et al. (US 2003/0124346 A1). Claim 3 stands

rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Yamanaka et al. (US 2003/0124346 A1) in view of Groves (US Pat. No. 5,229,206).

As a threshold matter, Applicant respectfully notes that the publication date of Takeda et al. is listed as August 7, 2003.¹⁶ Applicant further respectfully notes that the international filing date of Applicant's PCT application, to which the pending application claims priority, is listed as June 24, 2004, and further, that the Priority Date for the pending application is listed as August 6, 2003.¹⁷ Applicant therefore respectfully contends that Takeda et al. is not a proper prior art reference under 35 U.S.C. 103(a). If the Patent Office disagrees, then the Examiner is respectfully invited to state, on the record, the basis on which the Patent Office establishes priority of Takeda et al., and further, the relevant section under 35 U.S.C. § 102 on which priority is based for proper use of Takeda et al. as a reference under 35 U.S.C. § 103(a).

In addition, Applicant respectfully disagrees with the rejection of the claims, at least because the Patent Office has failed to meet its burden of establishing a proper *prima facie* case of obviousness in view of the cited references.¹⁸

A proper *prima facie* case of obviousness requires that the Office establish three facts:¹⁹

1. identification of a motivation to combine/modify the cited references;
2. a showing that the proposed combination provides a reasonable expectation of success; and
3. a teaching or suggestion of all of the claim limitations.

Applicant respectfully contends that the Patent Office has at least failed to properly provide a combination of prior art references that teaches or suggests all-elements of Applicant's claimed invention, as required by the "all-elements" rule.²⁰

With respect to each of Takeda et al, Yamanaka et al., and Groves, Applicant respectfully contends that the Patent Office has not met its burden of showing, on the record, that any combination of the cited references discloses, teaches or suggests Applicant's claimed heat resistant masking tape, comprising (1) a heat resistant backing film layer, **wherein a surface of**

¹⁶ WO 03/064552 A1, cover, item (43).

¹⁷ Applicant's published PCT Application WO 05/017059 A3, items (22) and (30).

¹⁸ See M.P.E.P. § 2142

¹⁹ M.P.E.P. § 2143.

²⁰ See *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 231 USPQ 81 (Fed. Cir. 1986).

the heat resistant backing film layer is surface treated; (2) a pressure-sensitive adhesive layer disposed on the treated surface of the heat resistant backing film layer, and wherein the pressure-sensitive adhesive layer comprises a polymer resulting from polymerizing and cross-linking a nonaqueous monomer mixture.

Applicant believes that none of Takeda et al, Yamanaka et al., and Groves actually disclose, teach or suggest formation of a pressure-sensitive adhesive layer on a surface treated heat resistant backing film layer. Furthermore, Applicant believes that Yamanaka et al. actually discloses and teaches only a pressure-sensitive adhesive polymer formed from a monomer mixture polymerized in an aqueous media. Thus, Applicant respectfully submits that the Patent Office has not met its burden of showing a combination of prior art references that discloses, teaches or suggests all limitations of Applicant's claimed invention, as required to support a rejection for purported obviousness under 35 U.S.C. § 103(a).

For at least the foregoing reasons, the rejection of claims 1-4 as purportedly being unpatentable over Takeda et al., claims 1, 2, and 4 under 35 U.S.C. § 103(a) as purportedly being unpatentable over Yamanaka et al., and claim 3 as purportedly being unpatentable over Yamanaka et al. in view of Groves, has been overcome and should be withdrawn.

Pertinent Prior Art of Record but not Relied Upon

Applicant respectfully agrees with the Office that Applicant's claimed invention is patentable over U.S. Pat. No. 3,729,338 to Lehmann et al., and U.S. Pat. Pub. No. 2001/055679 A1 to Schumann et al.

CONCLUSION

Reconsideration and withdrawal of the rejections of claims 1-4 under 35 U.S.C. § 102(b) for purported anticipation by Knapp and Liu et al.; and under 35 U.S.C. § 103(a) for purported obviousness over Takeda et al., and Yamanaka et al., further in view of Groves; is respectfully requested. Prompt allowance of all pending claims is also respectfully requested. The Examiner is invited to contact the undersigned at the indicated telephone number with questions that can be resolved with a simple teleconference.

Respectfully submitted,

1/04/08

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